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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/041,869	10/25/2001	Akihiro Sano	F-7193	5422

28107 7590 08/26/2003  
JORDAN AND HAMBURG LLP  
122 EAST 42ND STREET  
SUITE 4000  
NEW YORK, NY 10168

EXAMINER
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ALEJANDRO, RAYMOND

ART UNIT	PAPER NUMBER
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1745

DATE MAILED: 08/26/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/041,869	SANO ET AL.	
	Examiner Raymond Alejandro	Art Unit 1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 25 October 2001.

2a) This action is **FINAL**.                    2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 7-12 is/are pending in the application.

4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5) Claim(s) \_\_\_\_\_ is/are allowed.

6) Claim(s) 7-12 is/are rejected.

7) Claim(s) \_\_\_\_\_ is/are objected to.

8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 25 October 2001 is/are: a) accepted or b) objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some \* c) None of:

- Certified copies of the priority documents have been received.
- Certified copies of the priority documents have been received in Application No. 09/212964.
- Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) The translation of the foreign language provisional application has been received.

15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s) _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

**DETAILED ACTION**

***Priority***

1. Applicant's claim for domestic priority under 35 U.S.C. 120 is acknowledged.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 7. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

***Specification***

3. The abstract of the disclosure is objected to because of the following reason: the main invention of this application is directed to a battery cell attachment method per se, however, the present abstract appears to state or address the battery cell itself. Correction is required. See MPEP § 608.01(b).
4. The has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Language Suggestions***

5. With respect to the language “A battery cell attachment method” in claims 7-12, it is suggested to change such language as follows: “A method for attaching a battery cell”.
6. Regarding the language “selected from among” in claims 10-12, it is suggested to change such recitation as follows: “selected from the group consisting of...and...”, if applicants intend to recite a Markush group.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
8. Claims 7-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
9. Claims 7-9 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: *the claim language fails to provide the specific method steps to carry out as part of the claimed method. The language in claims 7-9 is unclear and render the claims vague as a proper method claim should positively recite or constructively include adequate method terminology such as: placing, attaching, connecting, acting, packing or the like. Accordingly, the present claim language is not clearly setting for and/or pointing out the essential steps per se, amounting to a gap between the steps. Further correction and/or clarification is required*

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10. The preamble language of claims 9-12 is not consistent with the preamble language of the independent claim from which claims 9-12 depend from, thereby the scope of the invention is vague and indefinite.

To the extent the instant claims were understood by the examiner (please refer to the 35 USC 112 rejections and the claim language suggestions above), please note the following:

***Claim Rejections - 35 USC § 102***

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

12. Claims 7 and 8 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Redford 5763112.

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The present application is directed to a battery cell attachment method wherein the disclosed inventive concept comprises the placement of a battery in a specific apparatus. Other limitations include the dividing part; the battery components; and the specific material from which the separator, the solvent and the gasket are made.

As to claims 7-8

Redford discloses a method and structure for attaching a battery to an electrical device (TITLE) wherein a faster comprising conductive elements, sandwiched between one or more terminals of a first object such as an electrical device and one or more terminals of a second object such as a battery can keep the battery affixed to the electrical device while the battery supplies power to the electrical device (ABSTRACT/COL 1, line 43 to COL 2, line 37/CLAIMS 12-14, 34-36).

[57]

**ABSTRACT**

In accordance with this invention, a novel stick-on peel-off fastener, comprising one or more conductive sticky elements, sandwiched between one or more terminals of a first object such as an electrical device and one or more terminals of a second object such as battery, can keep the battery affixed to the electrical device while the battery supplies power to the electrical device. One embodiment of a conductive sticky element includes a layer of conductive adhesive, such as a polymer resin that has a number of microscopic silver filings. Another embodiment of a conductive sticky element includes a number of hooks, such as those in Velcro™ elements. Yet another embodiment of a conductive sticky element includes a magnet that when used with another magnet, prevents improper coupling of the two objects due to magnetic repulsion.

**12. A method comprising:**

permanently attaching a first side of a conductive sticky element on a terminal of an electrical device; and  
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detachably attaching a second side of said conductive sticky element to a terminal of a battery, said detachable attaching forming an electrical coupling between 40 said terminals.

13. The method of claim 12 wherein said battery supplies an electric current to said electrical device through said conductive sticky element.

14. The method of claim 12 further comprising detaching 45 said battery from said electrical device and detachably attaching said electrical device to another battery.

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65 34. A method comprising:  
permanently attaching a conductive sticky element on a  
terminal of a battery; and

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detachably attaching said conductive sticky element to a  
terminal of an electrical device so that a first mark on  
said battery is aligned to a second mark on said  
electrical device, said detachable attaching forming an  
electrical coupling between said terminals.

35. The method of claim 34 wherein said battery cell  
supplies an electric current to said electrical device through  
said conductive sticky element.

36. The method of claim 34 further comprising detaching  
said battery from said electrical device and detachably 10  
attaching said electrical device to another battery.

In accordance with this invention, a novel stick-on peel-off fastener includes one or more conductive sticky elements that simultaneously (1) detachably attach and (2) electrically 45 couple terminals of a first object, such as a battery to corresponding terminals of a second object such as an electrical device, so that the battery can be affixed to the electrical device while supplying power. In two variations of this embodiment, the conductive sticky element is permanently attached to the terminals of one of the objects: (1) a 50 battery or (2) an electrical device and detachably attached to the other object. In a third variation of this embodiment, two conductive sticky elements are permanently attached to a battery and an electrical device and the elements are detach- 55 ably attached to each other.

Redford further teaches the particular battery (COL 4, lines 1-16/ Figure 2C):

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In one specific embodiment, battery 202 (FIG. 2C) has a housing 210 that includes a jacket 211 that encloses the various components of battery 202, including a separator 212. Separator 212 has a separator wall 213 that insulates a 5 positive active material 214 from a negative active material 215. Positive active material 214 can be, for example, manganese oxide  $MnO_2$ , whereas negative active material 215 can be, for example, lithium Li. Battery 202 includes a grommet 216 that holds each of electrodes (also called 10 "terminals") 206 and 207 in contact with active materials 214 and 215 respectively.

Jacket 211 defines two holes 220 (FIG. 2C) and 221 (FIG. 2A) that allow access to electrodes 206 and 207 respectively. To form object 200 from battery 202, a layer of conductive 15 adhesive is applied to each of electrodes 206 and 207 in holes 220 and 221 to form elements 204 and 205.

As illustrated in Figure 2C below the a flat shape battery comprises an anode 215, a cathode 214, a separator 212, a housing 210, and a grommet 216, terminal seals 206 and 207. It

*is evident from Figure 2C that the cell is divided in two parts wherein the electrolyte is further introduced.*

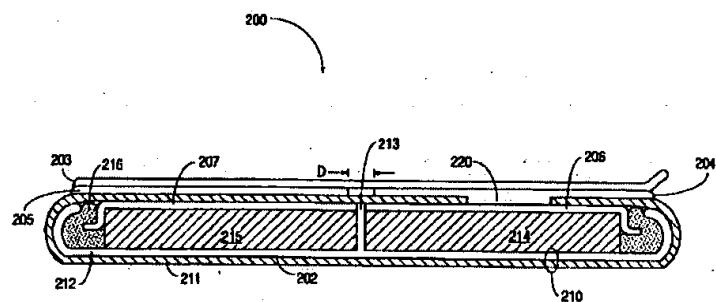


FIG. 2C

It is also disclosed that the cell can either be primary cell or secondary cells wherein the cells can also be either wet cell (liquid electrolyte or dry cell) (COL 3, lines 55-63).

It is also disclosed that the battery cell is to be attached and electrically coupled to electrical device (COL 1, lines 10-12) such as a wrist watch 500, a bracelet with LED, an interactive book 600, a compact disk case 700 and an interactive magazine 800 (COL 6, lines 21-25, Figures 5A-B, 6, 7 and 8. *Thus, it is noted that battery once attached to any one of the foregoing electrical devices can experience a centrifugal force thereon. In this case, the angle of inclination is at least 0.*

As to the limitation that a) the battery case is attached to an apparatus installed in a place acted on by centrifugal force, b) the specific angle of inclination and c) the specific relationship between the vacant volume and the divided part, since applicants disclose that a centrifugal force is to be acted on in a battery case attached to an apparatus, it is asserted that having shown the battery of the prior art is attached to an electrical device to at least at certain inclination angle including at least 0 degree of inclination as well as being a compartmentalized (divided in parts)

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battery cell, the above-mentioned characteristic, property and/or function is thus inherent as the method of attaching the battery and the battery structure recited in the reference is substantially identical to that of the claims, and therefore, claimed properties, characteristics or functions are presumed to be inherent (**MPEP 2112. Requirements of Rejection Based on Inherency**). Thus, the battery cell attaching method and embodiment of the applied art seems to be identical except that the prior art is silent as to an inherent function, property and/or characteristic. In that, it is noted that the extrinsic evidence makes clear that the missing descriptive matter is necessarily present in method of attaching the battery described in the reference, and that it would be so recognized by persons of ordinary skill.

Therefore, the claims are anticipated by Redford'112. However, if the claims are not anticipated the claims are obvious as it has been held similar products claimed in terms of its function, property and/or characteristic are obvious. *In re Best 195 USPQ 430 and In re Fitzgerald 205 USPQ 594. See rationale and/or technical reason above to reasonably support the determination that the inherent function and/or characteristic necessarily flows from the teaching of the applied prior art.*

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

15. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Redford 5763112 in view of Miyaki et al 6365299.

Redford is applied, argued and incorporated herein for the reasons above. In addition, Redford disclose the following:

With respect to claim 9:

It is disclosed that the positive active material is manganese oxide; and the negative electrode material is metallic lithium (COL 4, lines 1-10).

However, Redford does not disclose the specific liquid electrolyte-lithium salt; and the separator material.

As to claims 9 and 11:

Miyaki et al also disclose that the electrolyte consists of at least one organic solvent and at least one lithium salt soluble in the solvent wherein the solvent comprises ethylene carbonate, propylene carbonate, butylenes carbonate, gamma-butyrolactone and the likes (COL 19, line 54 to COL 20, line 10).

With respect to claim 10:

Miyaki et al teach a battery that may have any form such as a coin, a button, a flat shape (COL 21, lines 26-62) wherein the separator to be used is made of polytetrafluoroethylene (COL 19, lines 30-41) or inorganic fiber such as glass fiber (COL 19, lines 49-54).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to use the specific liquid electrolyte and lithium salt of Miyaki et al in the battery cell of Redford as Miyaki et al disclose that the claimed liquid electrolyte and liquid salt is a suitable electrolyte system which can be combine with the specific electrode chemical materials and battery constituent parts (COL 23, lines 1-36). Thus, the electrolyte system does enhance ion conductivity in the battery cell.

As to the separator material, it would have been obvious to one skilled in the art at the time the invention was made to use the separator material of Miyaki et al in the battery cell of Redford as Miyaki et al disclose that these separator materials can be used because they are insulating material having fine pores or interstices and exhibit high ion permeability and prescribed mechanical strength.

16. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Redford 5763112 in view of Miyaki et al 6365299 as applied to claim 9 above, and further in view of Jurca 4725515.

Redford and Miyaki et al are applied, argued and incorporated herein for the reasons above. In addition, Redford and Miyaki et al do not disclose the specific gasket material.

Jurca discloses a button electrochemical cell (TITLE) wherein the gasket 40 is of a resilient, electrically nonconductive polymeric material chosen to be non-reactive with the cell ingredients. The materials include polytetrafluoroethylene (COL 3, lines 38-47).

In view of the above, it would have been obvious to one skilled in the art at the time the invention was made to make the gasket material of the battery cell of both Redford and Miyaki et al as taught by Jurca as Jurca himself reveals that these materials have been found suitable for gasket of cells because the materials are resilient electrically nonconductive materials and nonreactive with the cell ingredient.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (703) 306-3326. The examiner can normally be reached on Monday-Thursday (8:30 am - 7:00 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (703) 308-2383. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Raymond Alejandro  
Examiner  
Art Unit 1745

